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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/281,831	03/30/99	TAI Y	06618/425001

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EXAMINER	
PEREZ,G	
ART UNIT	**PAPER NUMBER**
2834	2

DATE MAILED: 09/01/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/281,831	Applicant(s) TAI et al.
	Examiner Guillermo Perez	Group Art Unit 2834

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-9 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: page 12, line 6 reads "(Fig. 3C)", it should read --- (FIG 3 B) --- according to the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Brailsford (U. S. Pat. No. 4,475,068).

Brailsford discloses (Figures 2 and 3) a plurality of windings (21-24);

at least one magnetostatic relay (37-38) positioned in the motor to activate in the presence of a magnetic field, where each relay (37-38) is connected electrically to at least one corresponding winding (21-24) and to power; and

a magnetic four-pole rotor (31) having at least one pole (32-35) positioned to

induce a magnetic field in each magnetostatic relay (37-38) when passing by the relay (37-38).

Referring to claim 2, Brailsford discloses that the windings (21-24) are arranged in pairs of primary and secondary windings (21-22 and 23-24) and each relay (37-38) connects to a corresponding one of the pairs of windings (21-24).

Referring to claim 3, Brailsford discloses that the secondary windings (21 and 23) all connect to a common node (41) and each of the primary windings (22 and 24) connects to the corresponding relay (37-38).

Referring to claim 7, Brailsford discloses a structure (figure 3) that by rotating a magnetic rotor (31) a magnetic field is induce in at least one magnetostatic relay (37-38) in the motor; and in response to the magnetic field, each relay (37-38) is activated to deliver power to at least one corresponding winding (21-24) connected to the relay.

Referring to claim 8, Brailsford discloses that activating each relay (37-38) includes delivering power from each relay first through a corresponding primary winding (22 and 24) and then through a corresponding secondary winding (21 and 23) to a common node (41).

Referring to claim 9, Brailsford discloses that each relay (37-38) is activated four times during one rotation of the magnetic rotor (31).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brailsford in view of Tanikoshi (U. S. Pat. No. 3,900,780).

Brailsford discloses a DC motor as described on item 3 above. However, Brailsford does not disclose that the motor is a three-phase motor nor that the motor includes three relays separated from each other by approximately 120°.

Tanikoshi discloses that the motor is a three-phase motor (figure 7) and that the motor includes three relays separated from each other by approximately 120° (column 5, lines 40-49) for the purpose of controlling with a higher degree of accuracy the switching operations of the magnetic - sensitive elements.

It would have been obvious at the time the invention was made to modify the DC motor of Brailsford and provide it with a three-phase motor including three relays separated from each other by approximately 120° for the purpose of enhancing the switching operations of the relays during rotation of the motor rotor.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brailsford in view of Posey (U. S. Pat. No. 5,293,523).

Brailsford discloses a DC motor as described on item 3 above. However, Brailsford does not disclose a relay having: at least one substrate formed from a nonconductive or semiconductive material; a springing beam formed on the substrate; and two electrically conductive elements, one formed on the springing beam, that together define at least two switching states, including an open state in which the conductive elements are physically separated from each other, and a closed state in which the conductive elements physically contact each other; where the springing beam includes a magnetic material which, in the presence of a magnetic field, creates an actuation force that causes the electrically conductive elements to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states.

Posey discloses a relay having: at least one substrate (48) formed from a nonconductive or semiconductive material (column 5, lines 16 to 19); a springing beam (42) formed on the substrate (48); and two electrically conductive elements (42 and 44), one formed on the springing beam (42), that together define at least two switching states, including an open state in which the conductive elements are physically separated from each other (figure 3A), and a closed state in which the conductive elements physically contact each other (figure 3B); where the springing beam (42) includes a magnetic material (50) which, in the presence of a magnetic field, creates an

actuation force that causes the electrically conductive elements to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states for the purpose of avoiding an undesirable change in the magnetic flux field, which renders the switch insensitive to the proximateness of the permeable target object.

It would have been obvious at the time the invention was made to modify the DC motor of Brailsford and provide it with a relay having: at least one substrate formed from a nonconductive or semiconductive material; a springing beam formed on the substrate; and two electrically conductive elements, one formed on the springing beam, that together define at least two switching states, including an open state in which the conductive elements are physically separated from each other, and a closed state in which the conductive elements physically contact each other; where the springing beam includes a magnetic material which, in the presence of a magnetic field, creates an actuation force that causes the electrically conductive elements to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states for the purpose of keeping the relay sensible and actuable when mounted on a permeable material, particularly when the permeable object has greater permeability than necessary for magnetic saturation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443 . The examiner can normally be reached on Monday through Thursday from 8:30 to 6:00. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez , can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-5841.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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August 26, 1999